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Research and Development

AERIAL PHOTOGRAPHIC ANALYSIS SAM WEINER PROPERTY

Summit County, Ohio

EPA Region 5

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AERIAL PHOTOGRAPHIC ANALYSIS
Sam Weiner Property
Summit County, Ohio

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NOTICE

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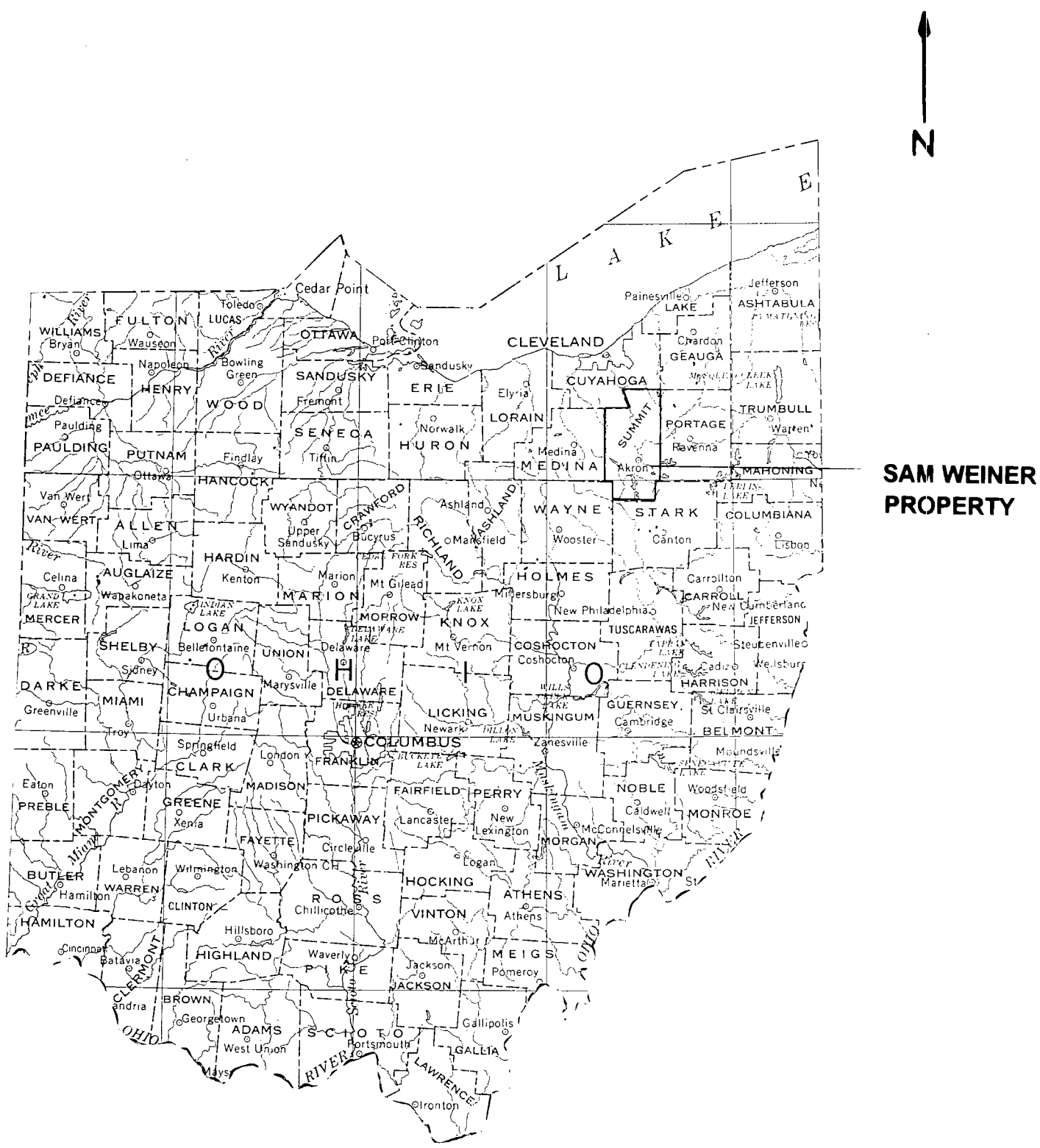

FIGURE 1

LOCATION MAP

SAM WEINER PROPERTY

SUMMIT COUNTY, OH

APPROX. SCALE: 1:2,500,000

ABSTRACT

An analysis of aerial photography was performed on the Sam Weiner Property, located in Summit County, Ohio (Figure 1). The property was analyzed to assist the Region 5 office of the U.S. Environmental Protection Agency (EPA) in support of the Superfund Accelerated Clean-Up Model to identify disposal activities associated with auto salvage operations and deposition at quarries within the study area.

The findings from the analysis of seven dates of aerial photography spanning the period 1952 through 1990 include the identification of five salvage operations, six quarries and several industrial operations within the rural setting of the Sam Weiner Property. Staining is prevalent near the entrances to three of the salvage yards and piles of debris, mounded material and miscellaneous objects were observed within the quarries. Stains, pits with liquid, debris, mounds of material and fill areas were observed at several of the other industrial facilities operating within the study area.

The U.S. EPA's Characterization Research Division's Monitoring Sciences Branch in Las Vegas, Nevada, prepared this report for EPA's Region 5 Hazardous Waste Management Division in Chicago, Illinois, and the Office of Emergency and Remedial Response in Washington, D.C.

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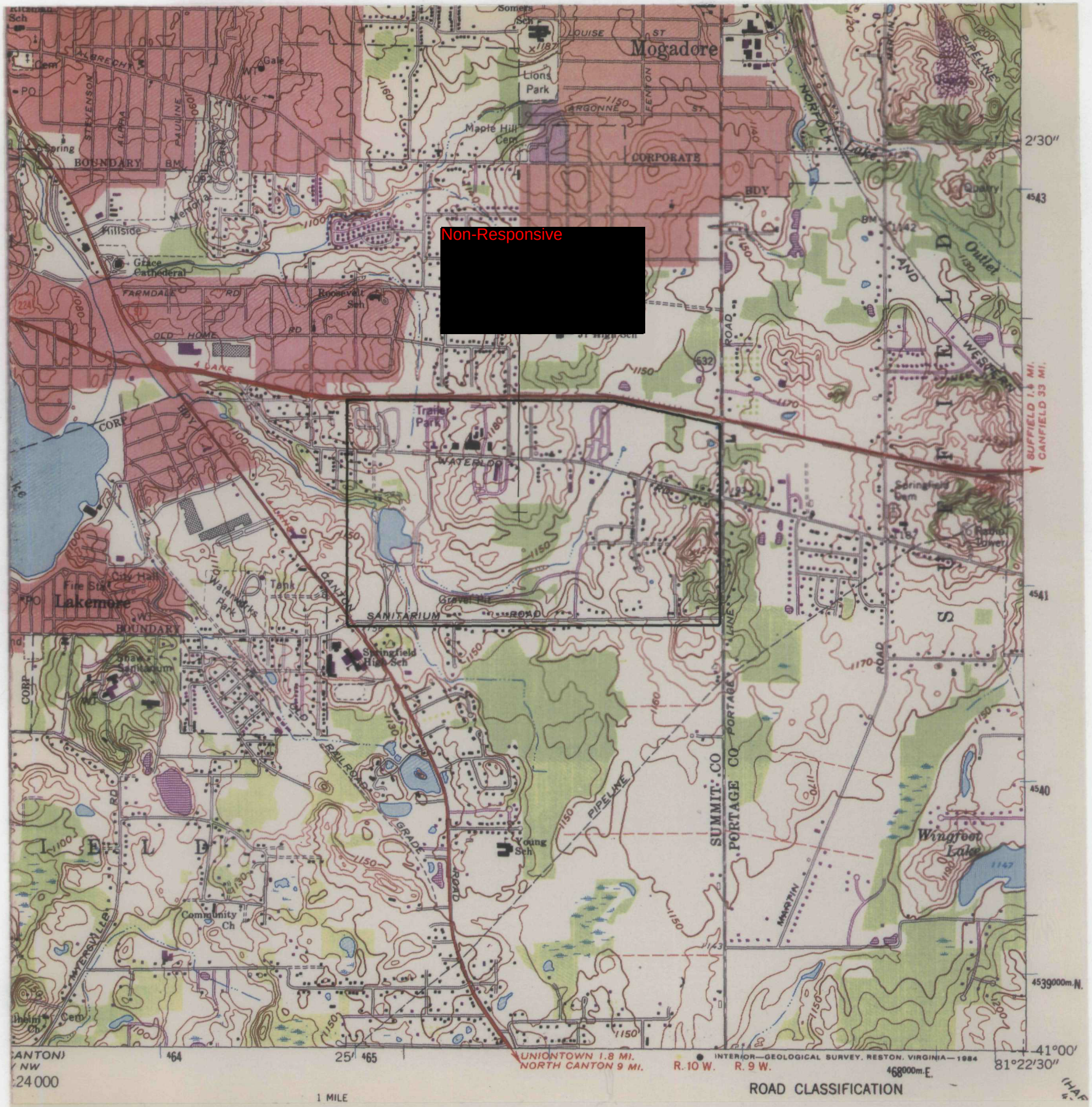


FIGURE 2

LOCATION MAP

SAM WEINER PROPERTY

AKRON EAST, OH QUAD

APPROX. SCALE: 1:24,000

INTRODUCTION

An aerial photographic analysis of the Sam Weiner Property, located in Summit County, Ohio, was performed for the U.S. Environmental Protection Agency's (EPA) Region 5 in support of the Superfund Accelerated Cleanup Model (SACM). The analysis was conducted to document past disposal activities associated with auto salvage operations and quarries within the study area where, according to the local population, disposal of mixed wastes occurred.

Figure 2 shows the location of the Sam Weiner Property, keyed to the Akron East, Ohio 1:24,000-scale U.S. Geological Survey (USGS) topographic map. The study area encompasses approximately 74 hectares (182.6 acres) and is bound on the north by U.S. Route 224, on the east by Portage Line Road (State Route 532), and on the south by Sanitarium Road.

Significant findings from the analysis of seven dates of aerial photography spanning the period 1952 through 1990 include the identification of five salvage yards, six quarries and several industrial operations within the rural setting of the Sam Weiner Property. Staining was prevalent near the entrances to three of the salvage yards and large piles of scrap/debris were present in the yards until 1974. Between 1974 and 1980 the salvage yards were reorganized and much of the scrap/debris removed from the yards. The six quarries were periodically active throughout much of the study period. Disposal within the quarries was not clearly observed until the final date of the study period (1990) when piles of debris, mounded material and miscellaneous objects were observed. Stains, pits with liquid, debris, mounds of material and fill areas were observed at several of the other industrial facilities operating within the study area. According to the U.S. Geological Survey Flood-Prone-Area Maps the Sam Weiner Property does not fall within the 100-year flood plain.

The U.S. EPA's Characterization Research Division's Monitoring Sciences Branch in Las Vegas, Nevada, prepared this report for EPA's Region 5 Hazardous Waste management Division in Chicago, Illinois, and the Office of Emergency and Remedial Response in Washington, D.C.

METHODOLOGY

Stereoscopic pairs of historical aerial photographs were used to perform the analysis. Stereo viewing enhances the interpretation because it allows the analyst to observe the vertical as well as horizontal spatial relationships of natural and cultural features. Stereoscopy enables the analyst of identify signatures (such as color, tone shadow, texture, size shape, pattern and association) associated with different features and environmental conditions that can be found within the study area.

Evidence of waste disposal is a prime consideration when conducting a hazardous waste site analysis. Leachate or seepage resulting from burial and dumping of hazardous materials might threaten existing surface or ground-water resources. Pools of unexplained liquid are routinely noted because they can indicate seepage from buried wastes and may enter drainage channels that allow contaminants to move off the site. An excellent indicator of how well hazardous materials are being handled at a site is the presence or absence of spills, spill stains, and vegetation damage. Trees and other forms of vegetation that exhibit a marked color difference from surrounding members of the same species are labeled "stressed," "damaged," or "dead" based upon the degree of noticeable variation. Vegetation is so labeled only after consideration of the season in which the photography was acquired.

Drainage analysis identifies the direction a spill or surface runoff would follow. Direction of drainage is determined from analysis of the photographs and from U.S. Geological Survey topographic maps. The 7.5-minute quadrangle map (1:24,000-scale) is used to show site location and to provide geographic and topographic information. The study area boundaries used in this analysis were determined from observations made from aerial photographs in conjunction with collateral data supplied by Region 5 and do not necessarily denote legal property lines or ownership.

Results of the analysis are shown on annotated overlays attached to the photographic prints covering the Sam Weiner Property. A fold-out legend is included on page 19 to define abbreviations and symbols annotated

on the overlays. Any additional comments and/or descriptions of features and activities are included in the accompanying text. Unless otherwise noted features are annotated until no longer present.

The terms "possible" and "probable" are usd to indicate the degree of certainty of signature identification. "Possible" is used when only a few characteristics are discernible or these characteristics are not unique to a signature. "Probable" is used when incrementally more characteristics are discernible. No qualifying terms are used when the characteristics of a signature allow for a definite feature identification.

The following table provides documentation of the photographs analyzed for this report:

TABLE 1. DOCUMENTATION OF AERIAL PHOTOGRAPHY

Site Name, location, geographic coordinates, and SSID#	Figures	Date of Acquisition	Original Scale	Film Type*	Photo Source†	Photo I.D.	Roll/ Frame Numbers
Sam Weiner Property Summit County, OH Akron East, OH Quad 41°01'30"N 81°24'21.5"W SSID# n/a	3	03-30-52	1:17,000	B&W	USGS	PH	3:195-197; 4:66-68
	4	11-27-57	1:19,000	B&W	USGS	VPI	2:111-114
	5	04-21-62	1:12,000	B&W	OHDOT	2275	2:31-33
	6	08-17-66	1:24,000	B&W	USGS	VBOH	1:765-766
	7	01-30-74	1:12,000	B&W	OHDOT	5303	2:23-26
	8	05-22-80	1:24,000	B&W	OHDOT	6851	17:765,766
	9	04-23-90	1:12,000	B&W	OHDOT	8379	14:656,657 15:723,724

*Film Type Identification: B&W - Black and White, CIR - Color Infrared, CC - Conventional Color.

†Photo Source Identification:
USGS - U.S. Geological Survey, U.S. Department of the Interior
OHDOT - Ohio Department of Transportation, Columbus, OH

PHOTO ANALYSIS

MARCH 30, 1952 (FIGURE 3)

The Sam Weiner Property consists mostly of a rural residential and agricultural setting. A drainage analysis was performed for this date of aerial photography; any significant changes observed on subsequent dates of photo coverage are annotated but not discussed unless associated with significant observations.

Significant findings include a salvage yard (SY1), a vehicle and equipment storage/repair (VES/R) shop, an area of disturbed ground (DG), a smoke plume and two quarry extraction areas (EXT). The northern portion of the east extraction area is inactive.

SY1 is situated on the north side of Waterloo Road and appears to be in the early phases of its operation. The southern portion of the yard is stained (not annotated). A pit containing light-toned (LT) mounded material (MM) and an adjacent pit with liquid (LQ) are present within the southern half of SY1. A ditch extends northwest from the northern pit. A second drainage ditch with a northwest orientation is near the center of the yard. The ditch appears wet and extends to a natural swell leading to westward flowing drainage routes. A probable pit and an area of disturbed ground are noted in the northern end of the yard. Drainage routes pass through the northern end of SY1 and numerous surface water pathways are observed on the west side of the salvage yard. Staining and/or liquid appears to originate from the southwest corner of SY1 and the building west of the site.

Equipment and vehicles are present at the vehicle and equipment storage/repair shop south of Waterloo Road. Probable ground staining (ST) is seen throughout the storage area.

FIGURE 3

SAM WEINER PROPERTY **MARCH 30, 1952** **APPROX. SCALE: 1:8,700**

NOVEMBER 27, 1957 (FIGURE 4)

Two new salvage yards (SY2 and SY3) are in operation within the study area. A new extraction area is present in the eastern portion of the study area and coarse-textured mounded materials are present north of the extraction area at the lake.

SY1 consists of piles of scrap/debris (DB) on this date. A building has been constructed over the location where the two pits containing light-toned mounded material and liquid were observed in 1952.

SY2 is located southeast of SY1 and consists of numerous junked vehicles.

SY3 is a large unfenced area along the north side of Waterloo Road. Staining is present at the main entrance to the yard and along the road leading into the yard. A stockpile of large items, probably vehicles, is present in the north end of the yard. Vegetated wet areas (not annotated) are present throughout the northern portion of the site. A fenced area with light- and dark-toned (DK) scrap/debris (possibly crushed battery casings) is located in the southwest corner of SY3. The interior road of this fenced area is stained.

A pool of liquid is present on the pavement at the vehicle and equipment storage/repair shop. A ditch containing liquid is present downgradient of the pooled liquid. Probable debris is present southeast of the storage/repair shop building.

Staining/liquid is present between SY2 and the vehicle and equipment storage/repair shop. The specific source of the stain/liquid was not detected.

Light-toned material is present along the upper edge of a gully in the south-central portion of the study area in the vicinity where the smoke plume was seen in 1952.

FIGURE 4

SAM WEINER PROPERTY NOVEMBER 27, 1957 APPROX. SCALE: 1:8,300

APRIL 21, 1962 (FIGURE 5)

The three salvage yards, the vehicle and equipment storage/repair shop and the easternmost quarry remain active. The lake in the west central portion of the study area has been drained and a new extraction area is operating at this location. Other findings include staining and refuse discarded over an embankment between SY2 and the vehicle and equipment storage/repair shop.

Oily stains are present at two locations within SY1; the entrance to the salvage yard and at the north end of the large building within the yard. Stains and liquid flow patterns are present west of the yard. The staining/liquid extends into channelized drainage routes previously annotated. A pool of liquid is present near parked vehicles east of SY1. The specific source for the pool of liquid was not detected.

A large mound of debris is present at the south end of SY2. Staining/liquid, which is partially obscured by the tree canopy and shadowing, extends westward from the pile. An area of disturbed ground is present east of the current SY2 boundary. On future dates of photography this location is occupied by the salvage yard operation.

The amount of salvage material and junked vehicles at SY3 has increased since 1957; however, there is less light- and dark-toned scrap/debris piled within the fenced area of the yard.

Three areas of staining and dark-toned material (M) or staining are present at the vehicle and equipment storage/repair shop. Two of the stains originate from the onsite building and the northernmost stain is adjacent to dark-toned objects (not annotated).

FIGURE 5

SAM WEINER PROPERTY APRIL 21, 1962 APPROX. SCALE: 1:8,000

AUGUST 17, 1966 (FIGURE 6)

The salvage yards, the easternmost extraction area, and the extraction area at the drained lake remain active. An area with vehicles, which eventually becomes a salvage yard (annotated as SY4), is present west of SY1. Extraction activity near the drained lake has increased and a pit with liquid and dark-toned mounded material are present. A new extraction area and a cleared area (CL) are present south of SY2.

Staining is prevalent at the entrance to SY1. Much of the salvage scrap/debris piles are overgrown with vegetation; an indication that there is a decrease in activity, however, the yard still appears to be in operation. A pool of liquid is present at the northwest corner of the yard. The specific source of this liquid could not be identified. Large vehicles (V) and associated ground stains are present in the lot east of SY1. Two locations of probable debris are also observed in this adjacent lot; one area of debris is situated at the head of a west-flowing drainage route.

SY2 has been expanded eastward with the eastern half consisting of junked vehicles and the western half consisting mostly of piled scrap/ debris. Parked vehicles are present west of SY2 and appear to be customer or employee parking.

The number of junked vehicles and scrap/debris piles in the main portion of SY3 has increased since 1962. The scrap/debris piles within the fenced area are overgrown with vegetation (VEG) indicating a decrease in activity in this area. Two ground scars (GS) and scattered debris overgrown with vegetation are present east of the current extent of SY3 activity.

A stain originating from the building is noted at the vehicle and equipment storage repair shop. Mounded material and disturbed ground is present south of the building. Pooled liquid is present within the area of disturbed ground and a portion of a mound of material has been extracted. A ground scar is noted where probable debris was observed in 1957.

FIGURE 6

SAM WEINER PROPERTY

AUGUST 17, 1966

APPROX. SCALE: 1:7,700

JANUARY 30, 1974 (FIGURE 7)

All four salvage yards and the extraction areas remain active on this date. A pit with liquid, piles of objects/rubble and mounds of material are observed at the extraction areas in the western portion of the study area. The former vehicle and equipment storage/repair shop has been replaced by a lumber yard. A farm/industrial facility with open storage (OS) of haphazardly placed equipment and objects is present farther east and a probable dump is noted north of the easternmost extraction area.

No significant changes are noted at SY1, SY2, and SY3. However, a fill area (FA) with mounded material and scattered refuse is present east of SY3, where vegetated debris and ground scars were observed in 1966.

SY4 has increased in size and in the number of junked vehicles since 1966. The yard remains unfenced.

FIGURE 7

SAM WEINER PROPERTY

JANUARY 30, 1974

APPROX. SCALE: 1:7,800

MAY 22, 1980 (FIGURE 8)

The salvage yards remain active; however,SY1 and SY3 have a reduced amount of salvage scrap/debris.

The northern half of SY1 appears to have been graded and some of the the salvage scrap removed and the area reorganized. Areas of staining and liquid are present at the industrial facilities both east and west of SY1. The liquid is present where vehicles are parked and the areas of stain/liquid appear to originate at the buildings.

No changes are observed at SY2. Abandoned vehicles are present east of SY2.

The former mounded material at the fill area east of SY3 has been graded and refuse is present along the edge of the filled area. A group of abandoned vehicles is present north of the fill area. The number of junked vehicles at SY4 has not changed significantly and vegetation has overgrown many of the vehicles in the western half of the yard.

A new extraction area is present southeast of SY2. The extraction operation south of the lake is no longer active; however, a ground scar, the pit with liquid, and a recently excavated pit with liquid are present. Probable refuse which is partially obscured by tree canopy is present where the piled objects/rubble was previously seen.

Other findings include debris present south of the fenced lumber yard, stained/wet ground (WG) and vegetated mounded material at the former truck stop located between the lumber yard and SY2, continued open storage of haphazardly placed equipment and objects at the industrial facility east of the lumber yard. A site with vegetated mounded material, a possible shallow pit and two dump trucks is present east of the aforementioned industrial facility. The probable dump observed farther east in 1974 is obscured by shadows; however, light-toned material or disturbed ground is discernible in the shadows.

FIGURE 8

SAM WEINER PROPERTY **MAY 22, 1980** **APPROX. SCALE: 1:8,500**

APRIL 23, 1990 (FIGURE 9)

All of the salvage yards have been cleaned-up/reorganized and a new probable salvage yard (SY5) is present between SY2 and the former lumber yard. This is the first date of aerial photography where disposal is evident at the now inactive extraction areas within the study area (see Figure 9 for location and descriptions of discarded items).

SY1 has not changed significantly since 1980. Drums (D) are present east of the SY1 fence at the adjacent operation where stains are present near two buildings. The western stain has a flow pattern that extends to a channelized drainage route passing through SY1.

SY2 has been reorganized, graded and consists of vehicles, trailers and salvage parts. A south-flowing channelized drainage route has been made and it extends to a pile of debris, possibly small containers, at the SY2 property line. Probable junked vehicles are present east of SY2 at the south end of the adjacent property.

SY3 has been reorganized, regraded and new channelized drainage routes added. The former fenced area with scrap/debris is no longer present. Scattered debris and refuse are present east of SY3 and a building (not annotated) has been constructed atop the fill area.

It appears as though all the former junked vehicles at SY4 were removed, the area graded and the northeastern portion filled. Vehicle parking is concentrated in the western portion of the yard. Another fill area is present west of the expanded SY4 facility. Mounds of dark-toned material and debris are present along the edge and on the surface of the fill area.

The probable SY5 facility is fenced on its north side and bound by an earthen berm on its west side. A shallow square pit is present in the northeast corner of the yard. A fill area is present to the east and two trailers are parked atop the filled area.

FIGURE 9

SAM WEINER PROPERTY **APRIL 23, 1990** **APPROX. SCALE: 1:7,400**

Staining/liquid is present at the entrance to the former lumber yard , which appears to have been converted to a shipping and receiving facility. Another stain is present near the south end of the onsite building.

The building at the industrial facility to the east of the shipping/ recieving facility has been expanded and may still be under construction, as excavated and graded areas are present along the western and southern sides of the expanded building (not annotated). Open storage of haphazardly placed equipment and objects continues. A pit with liquid and an adjacent pile of the excavated material (not annotated) is present west of the facility building and open storage area.

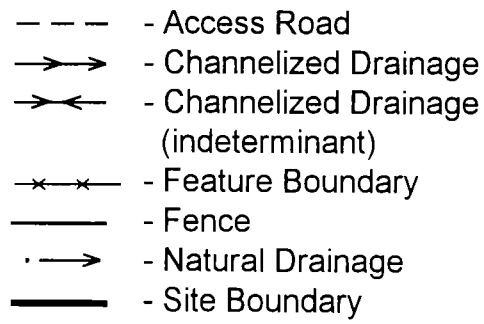
A new fenced facility is located east of the aforementioned industrial facility. A mound of light-toned material, parked vehicles and flatbed trailers (neither annotated) are present in the fenced yard. A stain and a mound of dark-toned material with a pool of liquid at its base are adjacent to five drums at the west end of the facility.

Further east, a graded area, mounded materials, and scattered piles of debris are present where the possible pit, mounded materials and dump trucks were observed in 1980.

Discarded objects are present within two extracted areas southeast of the aforementioned facilities. The eastern extraction area corresponds to the probable dump identified in 1974.

LEGEND

CL - Cleared Area
D - Drums
DB - Debris
DG - Disturbed Ground
DK - Dark-Toned
EX - Excavation
EXT - Extraction Area
FA - Fill Area
GR - Graded Area
GS - Ground Scar
LQ - Liquid
LT - Light-Toned
M - Material
MM - Mounded Material
OS - Open Storage
ST - Stain
SY - Salvage Yard
V - Vehicles
VEG - Vegetated
VES/R - Vehicle & Equipment Storage/Repair
WG - Wet Ground



LEGEND